

Algebra IA

Lesson 2.1

Use Integers and Rational Numbers

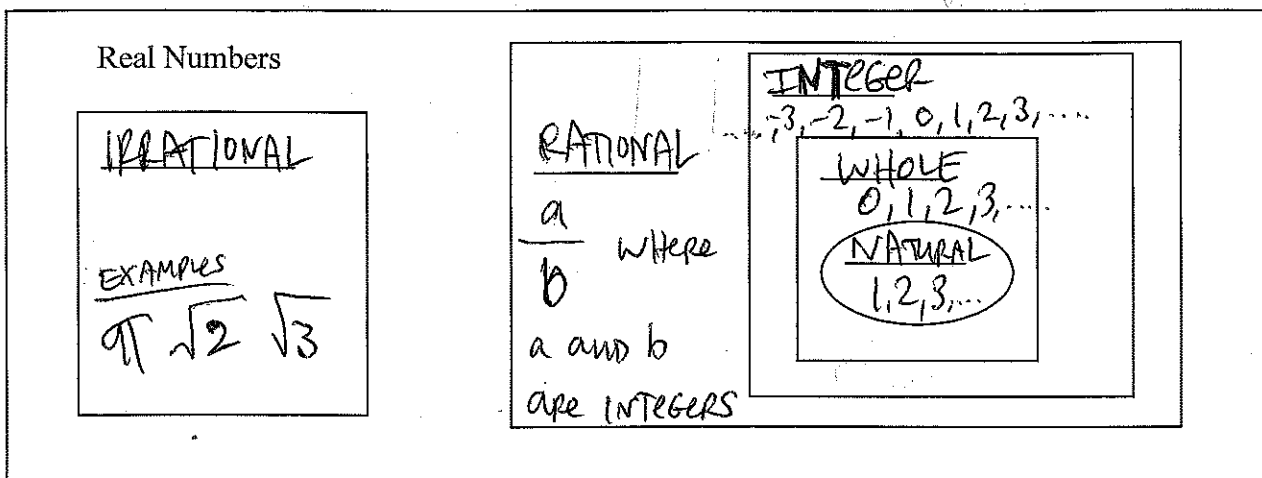
Warm-Up

Complete the statement using $<$, $>$, or $=$.

(a) $1.3 > 1.03$
 $\frac{13}{10} > \frac{103}{100}$

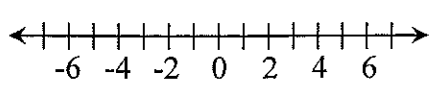
(b) $\frac{5}{8} < \frac{2}{3}$
 $\frac{15}{24} < \frac{16}{24}$

(c) $\frac{7}{9} > .75$ $\frac{3}{4}$
 $\frac{28}{36} > \frac{27}{36}$



RATIONAL
 Decimal
 MUST
 TERMINATE
 OR
 REPEAT

The Real Number Line

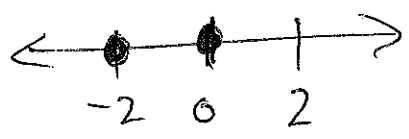


NATURAL / COUNTING

IRRATIONAL
 DECIMAL
 NEVER REPEATS
 AND
 NEVER TERMINATES

Example 1. Graph and Compare Integers

Graph 0 and -2 on a number line. Then tell which number is greater.



$-2 < 0$

Example 2. Classify Numbers

Tell whether each of the following numbers is a whole number, an integer or a rational number.

- 19, 7, .3, $-1\frac{1}{5}$, π

-19 → rational, integer

7 → rational, integer, whole, natural

0.3 → rational

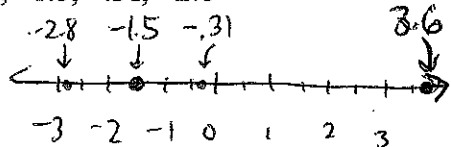
$-1\frac{1}{5}$ → rational

π → irrational

Example 3. Order Rational Numbers

Place the following numbers in order from least to greatest.

3.6, -1.5, -.31, -2.8



Least \rightarrow Greatest

$-2.8, -1.5, -.31, 3.6$

Opposite - TWO NUMBERS THAT ARE THE SAME DISTANCE FROM 0

Absolute Value - THE ABS. VALUE OF A NUMBER IS THE DISTANCE BETWEEN 0 AND THAT NUMBER

Example 4. Find Opposites of Numbers

For the given value of a , find $-a$

(a) $a = \frac{3}{8}$

$-\frac{3}{8}$

(b) $a = -0.65$

0.65

Example 5. Find Absolute Values of Numbers

For the given value of a , find $|a|$.

(a) $a = -16.2$

$|-16.2|$
16.2

(b) $a = \frac{2}{3}$

$|\frac{2}{3}|$
 $\frac{2}{3}$

Assignment: Page 67 - 68 (6 - 34) even; (42 - 48) even

Review:

Evaluate the expression when $x = 5$ and $y = 3$

1. $5y + x^2$

2. $2y + 9x - 7$

3. $2x^3 + 4y$

4. $(x - y)^3$

5. $x^4 + 4(y - 2)$

6. $\frac{24}{y} - x$

Write the expression in exponential form.

7. $5y \cdot 5y \cdot 5y \cdot 5y$

8. nine cubed

9. six to the seventh power